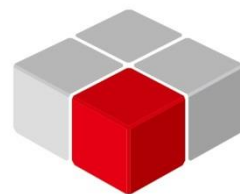
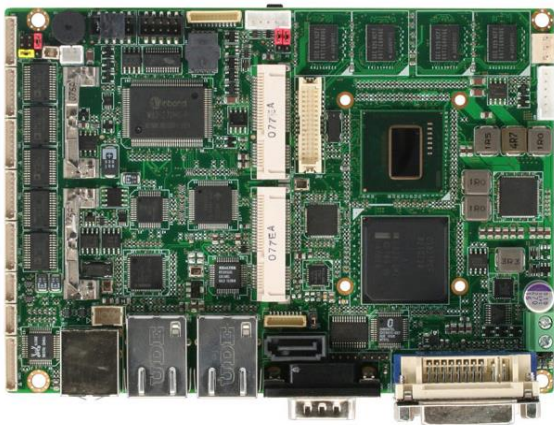


# GENE-TC05 PLC Quick Guide

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**CODESYS**  
**Runtime**

# Features

## ■ Processor

- Intel Atom E680 1.6GHz

## ■ Memory

- Onboard DDR2 667/800MHz Memory, Up to 1GB

## ■ Chipset

- Intel EG20T PCH

## ■ I/O Chipset

- Nuvoton W82627DHG-P, FintekF81216DG

## ■ Ethernet

- Realtek RTL8211CL & Intel 82574L
- 10/100/1000 Base-TX
- 2 x Gigabit Ethernet, 2 x RJ-45

## ■ BIOS

- AMI BIOS – 4MB SPI Flash

## ■ Wake On LAN

- Yes

## ■ Watchdog Timer

- Generate a time-out system reset

## ■ H/W Monitor Chipset

- Supports power supply voltages and temperature monitoring

## ■ Expansion Interface

- 2 x Mini Card (one include SIM slot and USB interface), LPC

## ■ Battery

- Lithium batter

## ■ Power Requirement

- Input 12 VDC

## ■ Form Factor

- 3.5"

## ■ Board Size

- 5.75" x 4" (146mm x 101.6mm)

## ■ Gross Weight

- 0.4kg

## ■ Operating Temperature

- 32°F~140°F (0°C ~ 60°C)
- WiRAS2: -40°F~185°F (-40°C~85°C)  
(TF-GENE-TC05W2-A10-01)

## ■ Storage Temperature

- -40°F~176°F (-40°C~80°C)
- WiRAS2: -40°F~185°F (-40°C~85°C)  
(TF-GENE-TC05W2-A10-01)

## ■ Operating Humidity

- 0%~90% relative humidity,  
non-condensing

## ■ Display Chipset

- Intel E680/ E620/ E620T integrated  
(E620T is for WiTAS2)

## ■ Display Memory

- shared system memory up to 512MB

**■ Display Resolution**

- Up to 1280 x 1024 for VGA, DVI
- Up to 1280 x 768 for LCD
- Up to 24-bit single channel LVDS

**■ Storage**

- 1 x SATA 3.0Gb/s, 1 x CFast

**■ Serial Port**

- 5 x RS-232, 1 x RS-232/422/485 (auto flow)

**■ CAN Bus**

- 1 x CAN Protocol Version 2.0B
- bit rate up to 1M-bit/sec

**■ USB Port**

- 4 x USB2.0

**■ PS/2 Port**

- 1 x Keyboard, 1 x Mouse

**■ Touch Screen**

- Support 4/5/8-wire Resistive Touch Screen

**■ Digital I/O**

- Supports 8-bit (Programmable)

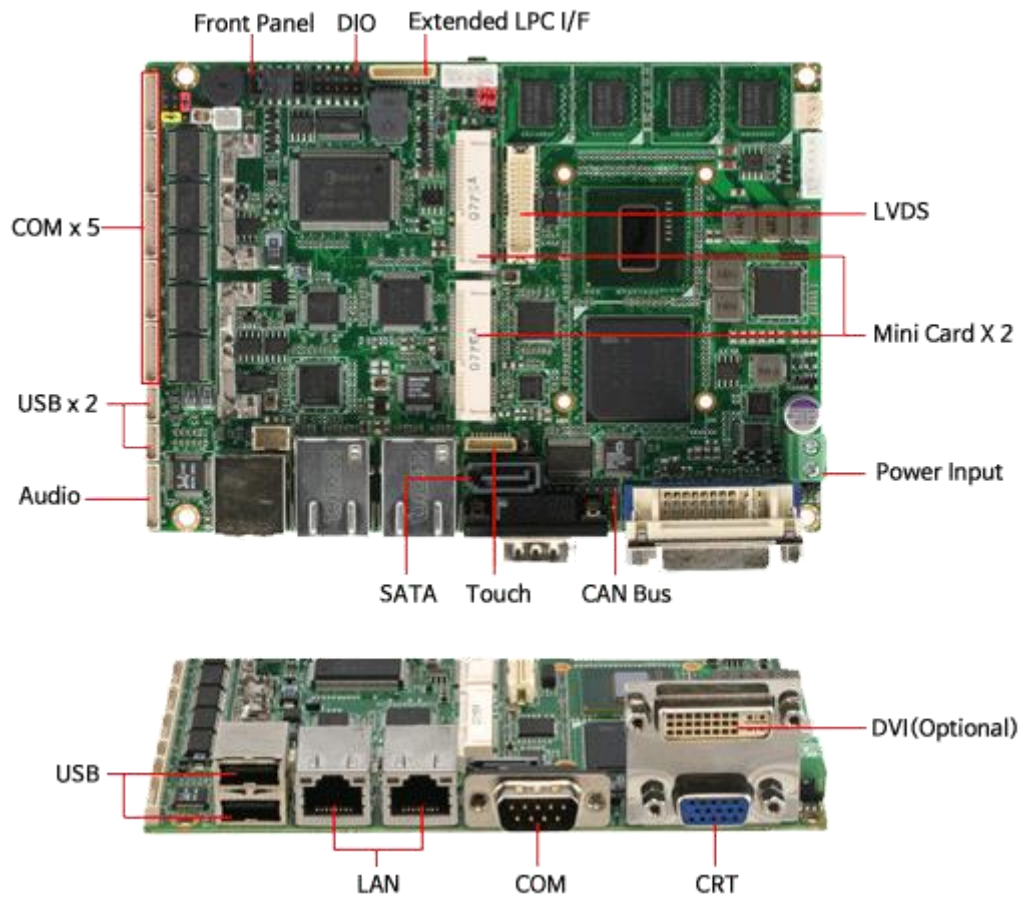
**■ Audio**

- Line-in, Line-out, Mic-in

**■ CODESYS Runtime**

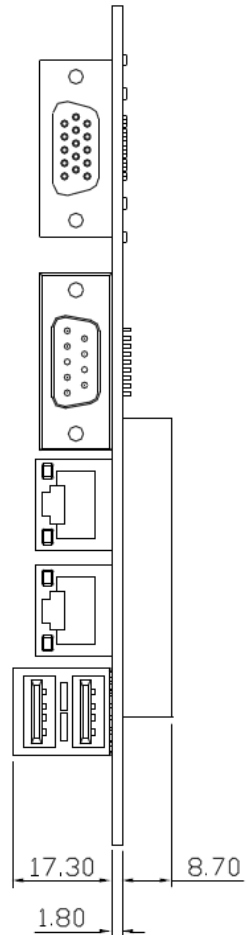
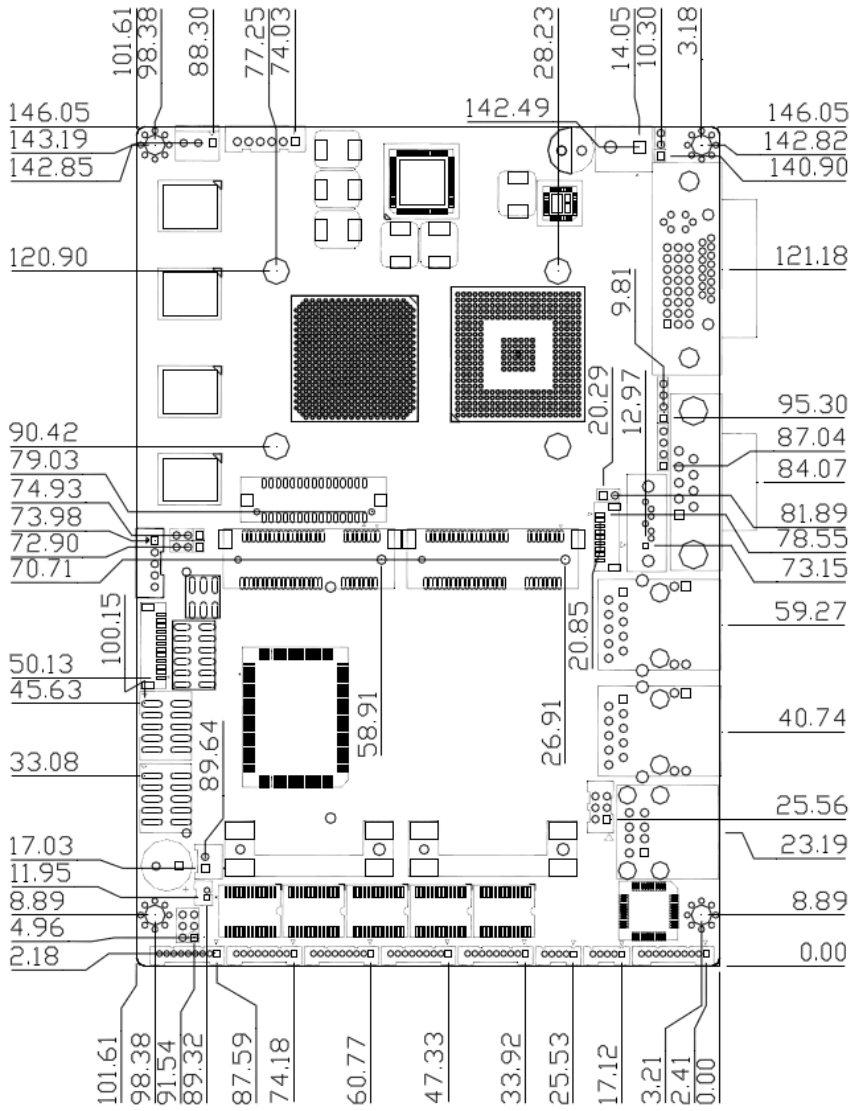
- IEC 61131-3 (IL, ST, FBD, CFC, LD)
- Fieldbus: CANopen (Optional), EtherCAT
- SoftMotion, CNC
- Visualization (HMI, Target, Web)

## Connector Information

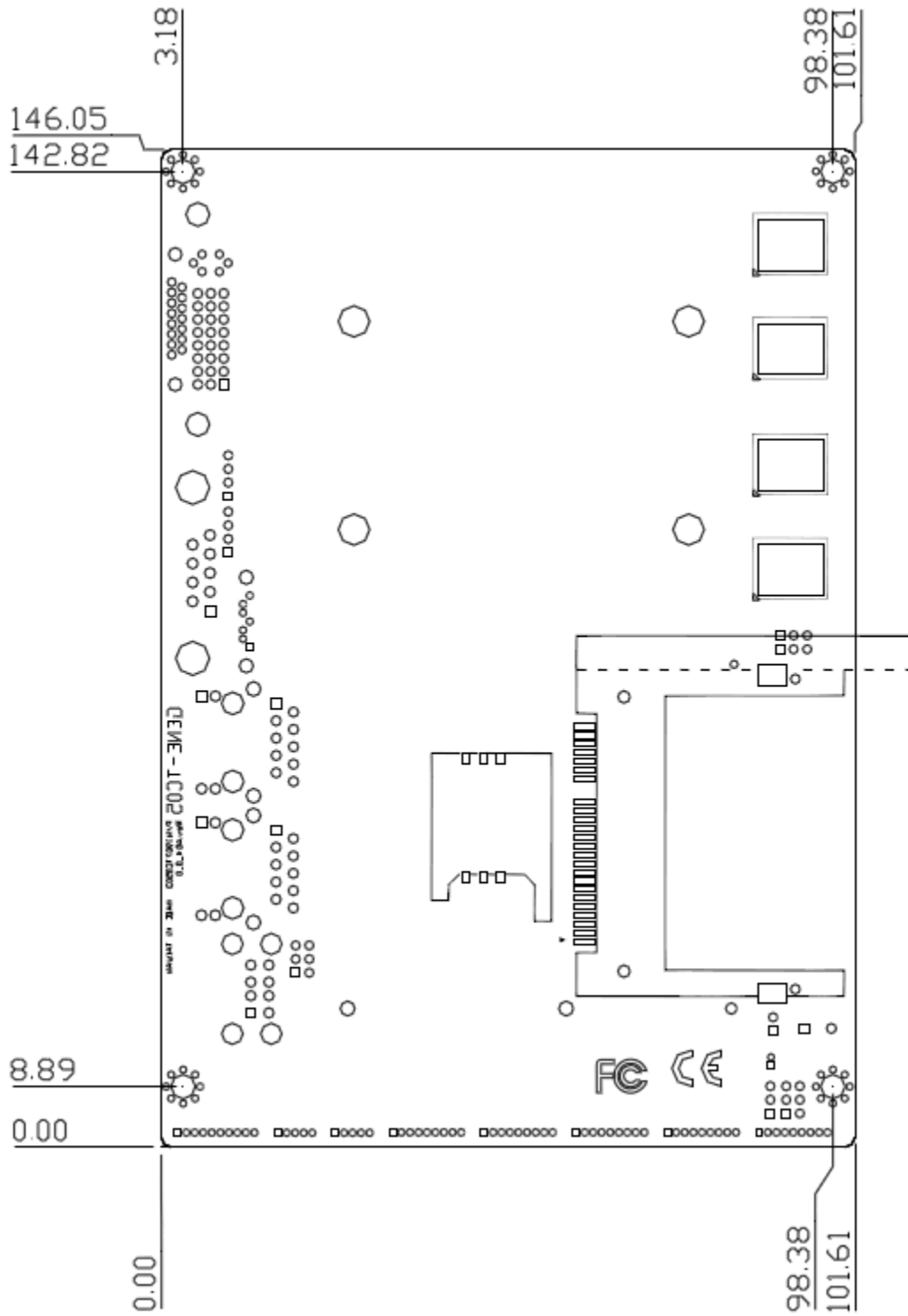


# Dimension

Unit : mm



Unit : mm



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# 1. Block Diagram

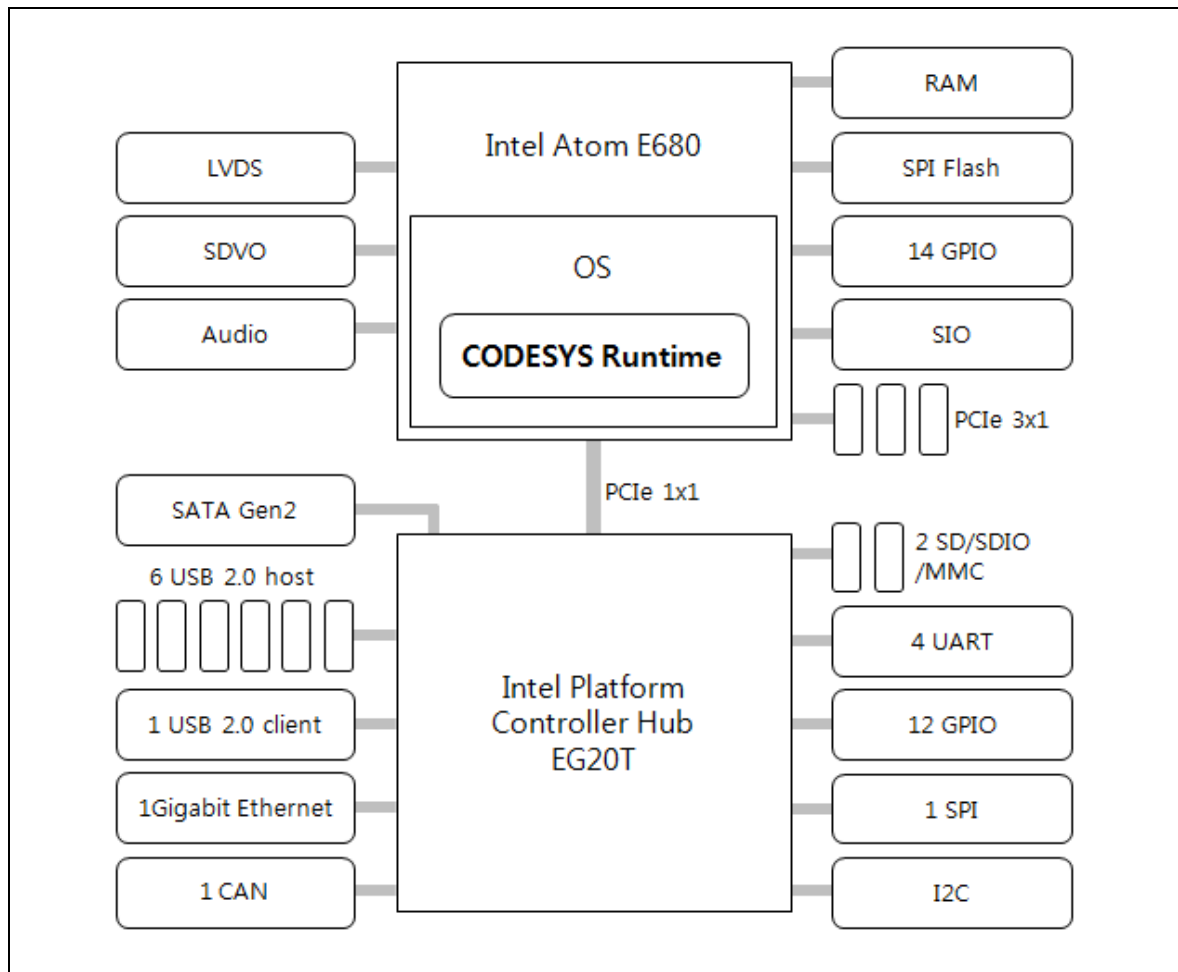


Figure 1. GENE-TC05 PLC Block Diagram

GENE-TC05 PLC has latest Intel Atom E680 Processor (1.6GHz Clock with 512KB Cache, 32bit Single Core). It is fitted with onboard memory as 667/800MHz DDR2 1GB RAM and Storage can be used SATA 3.0 Disk, CFast Memory Card.

10/100/1000 Gigabit Ethernet via RJ45 port can be used. And it supports for display connectors as VGA or DVI, 24-bit LVDS. Power is used 12VDC and it is included with I2C, SPI, UART, USB interface.

It support for Windows XP or 7 operating system and the real-time CODESYS runtime can be installed by default.

## 2. Installation

- Please check at the sites on the below how to install the CODESYS V3 Tool to your pc.
  - <http://www.altsoft.kr/> > Community > CODESYS Reference Room > CODESYS V3 Installation
- Please connect a 12V dc power supply to the power input port.



Figure 2. Connect a power supply to GENE\_TC05 PLC

## 3. Connect with GENE-TC05 PLC

Between user pc and GENE-TC05 PLC are connected via a LAN cable. You can set up the user pc's network environments and check the network connection using the ping command.

After creating a CODESYS project, you can scan the devices. Then, the connection of the device can be completed when GENE-TC05 PLC's host name will be showed in the communication settings tab of the device window.

### 3.1 Connection between GENE-TC05 PLC and user pc

Connect between GENE-TC05 PLC's LAN2 port and user pc port. (GENE-TC05 PLC IP: **192.168.0.3**)

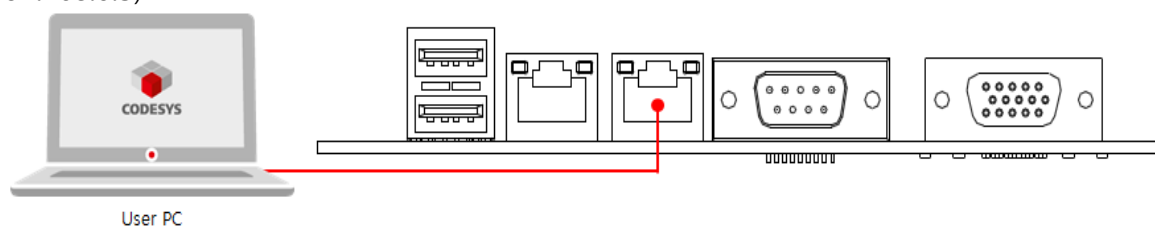


Figure 3-1. Connection between GENE-TC05 PLC and user pc

### 3.2 Setup of Network Environments in user pc

Set the user pc's ip address as a **192.168.0.2**.

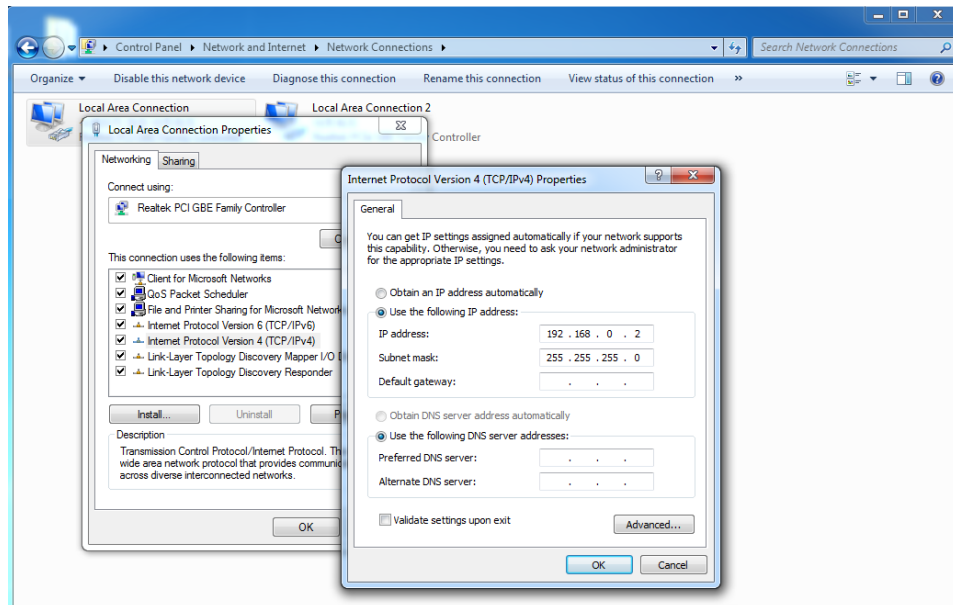


Figure 3-2. Setup of network environments in user pc

### 3.3 Check the network connection using the ping test

Run windows command program (cmd.exe) and in windows command prompt, type a command [**ping 192.168.0.3**] to test connectivity to the GENE-TC05 PLC.

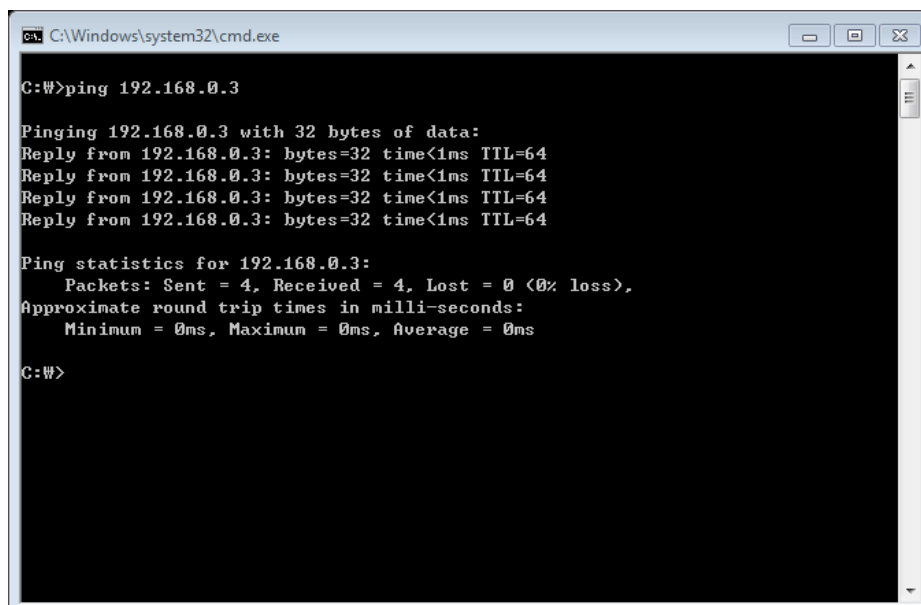


Figure 3-3. Check the network connection using the ping test

### 3.4 GENE-TC05 PLC device scan and connect

After creating a CODESYS Project, Press button [scan network] to search for available device in your local network. Then, select the network path to GENE\_TC05 PLC.

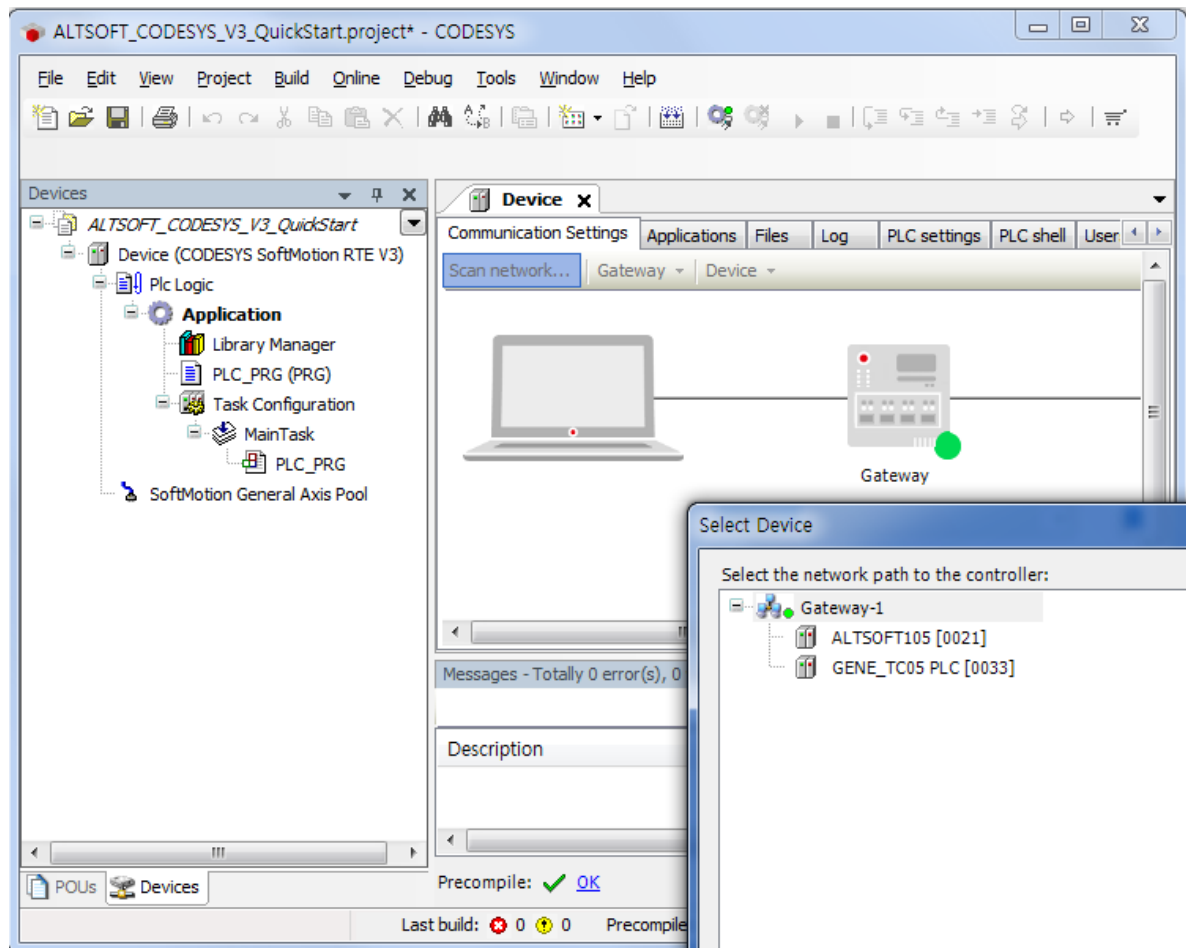


Figure 3-4. GENE-TC05 PLC device scan and connect

## 4. Connect with Slave Device

Connect with Slave Device from RJ45 connector of GENE-TC05 PLC.

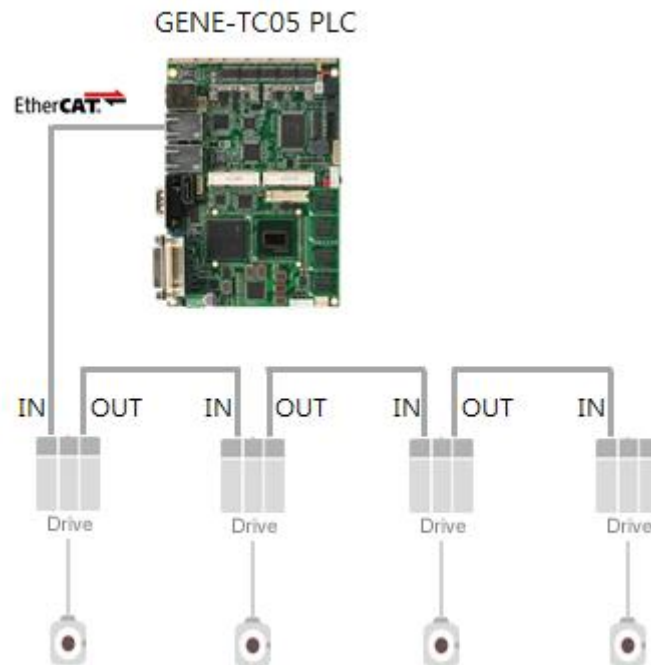


Figure 4. Connection between GENE-TC05 PLC and EtherCAT Slave Device